

106. (New) The array of claim 1 wherein the solid support is composed of a silicone elastomeric material.

107. (New) The array of claim 106 wherein the silicone elastomeric material is polydimethylsiloxane.

### **REMARKS**

#### **I. THE AMENDMENTS TO THE CLAIMS**

Before this Amendment, Claims 1-105 were pending. Claims 1-107 will be pending upon entry of this Amendment.

New claims 106 - 107 have been added.

Support for new claim 106 may be found, *inter alia*, in the specification at page 12, lines 5-10.

Support for new claim 107 may be found, *inter alia*, in the specification at page 12, lines 5-10.

No new matter has been added by way of these amendments.

A copy of the claims that will be pending upon entry of this Amendment is attached as Appendix A.

#### **II. ELECTIONS / RESTRICTIONS**

Restriction has been required under 35 U.S.C. § 121 to one of the following inventions:

- I. Claims 1-16 and 93-101, drawn to a positionally addressable array and a kit;
- II. Claims 17-21 and 102-105, drawn to an addressable array with proteins;
- III. Claims 22-24, drawn to a positional array with a ceramic solid support;

- IV. Claim 25, drawn to an addressable array with a linker;
- V. Claims 26-48, drawn to an array with wells;
- VI. Claims 49 and 51-62, drawn to a method of making a positionally addressable array;
- VII. Claims 50 and 51-62, drawn to a method of making an addressable array;
- VIII. Claim 78, drawn to a method of making a positionally array with whole cells;
- IX. Claim 79, drawn to a method of making an array with proteins;
- X. Claims 65 and 69-73, drawn to a method of using a positionally addressable array with different substances;
- XI. Claims 66 and 69-73, drawn to a method of using a positional array with proteins;
- XII. Claims 67 and 69-73, drawn to a method of using an addressable array with polyimides solid support;
- XIII. Claims 68-73, drawn to a method of using a positionally addressable array with a linker;
- XIV. Claims 74-75, drawn to a method of using an array that include a depositing step with whole cells;
- XV. Claims 76-77, drawn to a method of using a positionally addressable array with proteins;

XVI. Claims 80-87, drawn to a method of identifying an antigen;

XVII. Claims 88-91, drawn to method of determining the specificity of an antibody;  
and

XVIII. Claim 92, drawn to a method of identifying a mitogen.

The inventions are stated to be distinct, each from the other.

In order to be fully responsive, Applicants hereby provisionally elect the invention of Group I, claims 1-16 and 93-101, classified in class 422, subclass 61, drawn to a positionally addressable array and a kit. New claims 106-107 are believed to be within the elected Group I.

With respect to the Examiner's division of the invention into eighteen groups and the reasons stated therefor, Applicants respectfully traverse. In particular, Applicants respectfully request that the restriction requirement be modified as set forth below.

As a preliminary matter, Applicants respectfully draw the Examiner's attention to claims 63 and 64, which appear to have been omitted inadvertently from the Restriction Requirement. Claims 63 and 64 depend from claim 51, and are therefore presumably to be grouped in Groups VI and VII (since claim 51 depends from claims 49 and 50). Confirmation of the grouping of claims 63 and 64 in Groups VI and VII is respectfully requested.

Applicants respectfully request that the restriction requirement be modified to group Group I, claims 102-103 of Group II, and Group X together; claims 18-21 and 104-105 of Group II and Group XI together; Groups III and XII together; and Groups IV and XIII together.

**A. Groups I, II (Claims 102-103) and X**

Claim 1 of Group I (and claims 2-16 depending therefrom), classified in class 422, subclass 61, is drawn to a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support,

wherein the plurality of different substances consists of at least 100 different substances per  $\text{cm}^2$ . Claim 93 of Group I (and claims 94-101 depending therefrom) is drawn to a kit comprising (a) one or more arrays comprising a plurality of wells on the surface of a solid support wherein the density of the wells is at least 100 wells/ $\text{cm}^2$ ; and (b) in one or more containers, one or more probes, reagents, or other molecules.

Claim 102 of Group II (and claim 103 depending therefrom), classified in class 435, subclass 287.1, is drawn to a kit comprising (a) one or more positionally addressable arrays comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the plurality of different substances consists of at least 100 different substances per  $\text{cm}^2$ ; and (b) in one or more containers, one or more probes, reagents, or other molecules.

Claim 65 of Group X (and claims 69-73 depending therefrom), classified in class 436, subclass 2, is drawn to a method of using a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the plurality of different substances consists of at least 100 different substances per  $\text{cm}^2$ , comprising the steps of: (a) contacting a probe with the array; and (b) detecting protein/probe interaction.

Since claims of Groups I and X, and claims 102-103 of Group II, recite a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, and recite a minimum density of substances of wells, they merit examination together in a single application.

Even assuming *arguendo* that Group I, claims 102-103, and Group X represented distinct or independent inventions, Applicants submit that the same subject matter would have to be searched for all of these Groups and thus combining them would not be a serious burden on the Examiner.

The M.P.E.P. § 803 (Fifth Edition, Rev. 8, May 1988) states:

If the search and examination of an entire application can be made without serious burden, the examiner >must<\* examine it on the merits, even though it includes claims to distinct or independent inventions.\*\*

Thus, in view of M.P.E.P. § 803, all of claims 1-16, 65, 69-73 and 93-103 should be grouped as a single invention.

**B. Group II (Claims 17-21 and 104-105) and Group XI**

Claim 17 of Group II (and claims 18-21 depending therefrom), classified in class 435, subclass 287.1, is drawn to a positionally addressable array comprising a plurality of different proteins, or molecules comprising functional domains of said proteins, on a solid support, with each different protein or molecule being at a different position on the solid support, wherein the plurality of proteins or molecules consists of at least 50% of all expressed proteins with the same type of biological activity in the genome of an organism. Claim 104 of Group II (and claim 105 depending therefrom) is drawn to the kit according to Claim 103 wherein the substances are proteins, and the proteins are at least 50% of all expressed proteins with the same type of biological activity in an organism.

Claim 66 of Group XI (and claims 69-73 depending therefrom), classified in class 436, subclass 86, is drawn to a method of using a positionally addressable array comprising a plurality of different proteins, or molecules comprising functional domains of said proteins, on a solid support, with each different protein or molecule being at a different position on the solid support, wherein the plurality of proteins or molecules consists of at least 50% of all expressed proteins with the same type of biological activity in the genome of an organism, comprising the steps of: (a) contacting a probe with the array; and (b) detecting protein/probe interaction.

Since claims of Group XI and claims 17-21 and 104-105 recite a positionally addressable array comprising a plurality of different proteins, or molecules comprising functional domains of said proteins, on a solid support, with each different protein or molecule being at a different position on the solid support, and recite a minimum percentage of expressed proteins for the plurality of proteins or molecules, they merit examination together in a single application.

Even assuming *arguendo* that claims 17-21 and 104-105 of Group II and Group XI represented distinct or independent inventions, Applicants submit that the same subject matter would have to be searched for both of these Groups and thus combining them would not be a serious burden on the Examiner. Therefore, in view of M.P.E.P. § 803, all of claims 17-21, 66, 69-73 and 104-105 should be grouped as a single invention.

**C. Groups III and XII**

Claim 22 of Group III (and claims 23-24 depending therefrom), classified in class 435, subclass 287.2, is drawn to a positionally addressable array comprising a plurality of different substances selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the solid support is selected from the group consisting of ceramics, amorphous silicon carbide, castable oxides, polyimides, polymethylmethacrylates, polystyrenes and silicone elastomers.

Claim 67 of Group XII (and claims 69-73 depending therefrom), classified in class 436, subclass 72, is drawn to a method of using a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the solid support is selected from the group consisting of ceramics, amorphous silicon carbide, castable oxides, polyimides, polymethylmethacrylates, polystyrenes and silicone elastomers, comprising the steps of: (a) contacting a probe with the array; and (b) detecting protein/probe interaction.

Since claims of Groups III and XII recite a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, and recite that the solid support is selected from the group consisting of ceramics, amorphous silicon carbide, castable oxides, polyimides, polymethylmethacrylates, polystyrenes and silicone elastomers, they merit examination together in a single application.

Even assuming *arguendo* that Groups III and XII represented distinct or independent inventions, Applicants submit that the same subject matter would have to be searched for both of these Groups and thus combining them would not be a serious burden on the Examiner. Therefore, in view of M.P.E.P. § 803, all of claims 22-24, 67 and 69-73 should be grouped as a single invention.

**C. Groups IV and XIII**

Claim 25 of Group IV, classified in class 422, subclass 50, is drawn to a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the plurality of different substances are attached to the solid support via a 3-glycidooxypropyltrimethoxysilane linker.

Claim 68 of Group XIII (and claims 69-73 depending therefrom), classified in class 436, subclass 532, is drawn to a method of using a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, wherein the plurality of different substances are attached to the solid support via a 3-glycidooxypropyltrimethoxysilane linker, comprising the steps of: (a) contacting a probe with the array; and (b) detecting protein/probe interaction.

Since claims of Groups IV and XIII recite a positionally addressable array comprising a plurality of different substances, selected from the group consisting of proteins, molecules comprising functional domains of said proteins, whole cells, and protein-containing cellular material, on a solid support, with each different substance being at a different position on the solid support, and recite that the plurality of different substances are attached to the solid support via a 3-glycidooxypropyltrimethoxysilane linker, they merit examination together in a single application.

Even assuming *arguendo* that Groups IV and XIII represented distinct or independent inventions, Applicants submit that the same subject matter would have to be searched for both of these Groups and thus combining them would not be a serious burden on the

Examiner. Therefore, in view of M.P.E.P. § 803, all of claims 25 and 68-73 should be grouped as a single invention.

Applicants retain the right to petition from the restriction requirement under 37 C.F.R. § 1.144.


Applicants respectfully request that the Restriction Requirement Under 35 U.S.C. § 121 be modified such that Groups I and X are combined, Groups II and XI are combined, Groups III and XII are combined and Groups IV and XIII are combined, and that all be examined together, along with Groups V-IX and XIV-XVIII, in the instant application.

### CONCLUSION

Applicants respectfully request that the amendments and remarks made herein be entered and made of record in the file history of the present application.

Respectfully submitted,

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### Attachments:

Appendix A: Claims Pending Upon Entry of the Present Amendment